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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/764,820	01/26/2004	Michael R. Rice	8092/Y01	6886

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EXAMINER	
GREENHUT, CHARLES N	
ART UNIT	**PAPER NUMBER**
3652	
MAIL DATE	**DELIVERY MODE**
10/31/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/764,820	RICE ET AL.	
	Examiner	Art Unit	
	Charles N. Greenhut	3652	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 September 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3,6-9,13,14,16 and 19-32* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1, 3, 6-9, 13, 14, 16, 19-32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

I. Claim Rejections – 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claim(s) 30-32 is/are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

   1.1. With respect to claim(s) 30, it is unclear how the window for capturing the transfer flange narrows in a direction of motion of the overhead support (This limitation appears contrary to Fig. 4).

   1.2. With respect to claim(s) 31, it is unclear what elements impact.

   1.3. With respect to claim(s) 32, it is unclear how the blade on the third and forth side form a chevron (^)

II. Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless -
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claim(s) 1, 3, 6-9, 13 and 29-32 is/are rejected under 35 U.S.C. 102(b) as being anticipated by WANG (US 5,035,389 A).

   1.1. With respect to claim(s) 1, WANG discloses an overhead transfer flange (10) adapted to couple to a substrate carrier body (e.g., via screw holes Col. 2 Li. 37-38)

and adapted to couple to a moving overhead carrier support in a direction of motion thereof (e.g., via ribs 11), the flange having a first side and wider second side with third and forth sides extending therebetween (trapezoidal shape – Col. 2 Li. 14-15), the third and forth sides having blades (11) extending in non-parallel paths between the first (top) and second (bottom) sides.

1.2. With respect to claim(s) 3, 6-8, 13 WANG additionally discloses, about 60° (Fig. 12) a blunted (e.g., at 111) and radiused (e.g., at 112) edge that is angled.

1.3. With respect to claim(s) 9, WANG discloses a substrate carrier body (5) adapted to support one or more substrates, an overhead transfer flange (10) coupled to the substrate carrier body (e.g., via ribs 11) and adapted to couple to a moving overhead carrier support in a direction of motion thereof (e.g., via screw holes Col. 2 Li. 37-38), the flange having a first side and wider second side with third and forth sides extending therebetween (trapezoidal shape – Col. 2 Li. 14-15), the third and forth sides having blades (11) extending in non-parallel paths between the first (top) and second (bottom) sides.

1.4. With respect to claim(s) 29, WANG discloses an overhead transfer flange (10) adapted to couple to a substrate carrier body (e.g., via screw holes Col. 2 Li. 37-38) and adapted to couple to a moving overhead carrier support (20) in a direction of motion thereof (e.g., via ribs 11), the flange having a first side and wider second side with third and forth sides extending therebetween (trapezoidal shape – Col. 2 Li. 14-15), the third and forth sides having blades (11) extending in non-parallel paths

between the first (top) and second (bottom) sides engaging supporting features (22) of a carrier support (20).

1.5. With respect to claim(s) 30-32, as best understood by Examiner, WANG additionally discloses a window that narrows in a direction of motion of the carrier support, and the flange adapted to decouple upon an impact, and a chevron (111').

2. Claim(s) 14, 16, 19, 21-24 is/are rejected under 35 U.S.C. 102(b) as being anticipated by JONES (US 2,588,009 A).

2.1. With respect to claim(s) 14, 19, 21-23, JONES discloses an overhead carrier support (6) adapted to couple to and support a substrate carrier (shown coupled to the wall which is shown carrying substrate 1) while in motion via an overhead transfer flange (shown coupled via flange 9), the overhead carrier support having a first and wider second side, a third and forth side extending therebetween (trapezoidal shape - Col. 1 Li. 51-52), the third and fourth sides are angled and have channels (7/8) extending in non-parallel paths from the first to second sides.

2.2. Claim(s) 16 is/are rejected under 35 U.S.C. 102(b) as being anticipated by JONES or in the alternative by JONES in view of WANG as discussed below. With respect to claim(s) 16 JONES additionally discloses an angle about 60°.

2.3. With respect to claim(s) 24, JONES discloses providing a substrate carrier having a body (3/4) adapted to support a substrate (shown supporting substrate 1), an overhead transfer flange (9) coupled to the carrier body (Fig. 3), adapted to couple with an overhead carrier support (e.g., via 10/11) in a direction of motion thereof, the flange having a first side and wider second side with third and forth sides extending

therebetween (trapezoidal shape – Col. 2 Li. 5-6), the third and forth sides having blades (10/11) extending in non-parallel paths between the first and second sides, an overhead carrier support (6), adapted to suspend a substrate carrier (3/$) via the overhead transfer flange (9), the overhead carrier support having a first and wider second side, a third and forth side extending therebetween (trapezoidal shape - Col. 1 Li. 51-52) adapted to receive the respective third and fourth side of the flange, and coupling the flange and support to support the substrate carrier (Fig. 3).

III. Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claim(s) 16, 20 is/are rejected under 35 U.S.C. 103(a) as being unpatentable over JONES in view of WANG

    1.1. With respect to claim(s) 16, 20, JONES does not specify a specific angle between the third and fourth side. It is well-known that the wedge angle may be of varying degree, for example about 60° (See e.g., WANG Fig. 12). It would have been obvious to one having ordinary skill in the art to make the orient the third and forth side of JONES at the appropriate angle based on the desired degree of wedge force and misalignment compensation.

2. Claim(s) 25-26 is/are rejected under 35 U.S.C. 103(a) as being unpatentable over JONES in view of STROMBERG (US 2,008,087 A).

2.1. With respect to claim(s) 25, JONES additionally discloses raising a top of the flange (9) above a bottom of the support (6). JONES fails to disclose lowering the flange into engagement with the support. This limitation is not met simply because JONES reverses the fixed and stationary parts. It is well-known that the interlocking components of wedge like couplings may be reversed so that the carrier portion is fixed while the flange moves. For example, STROMBERG discloses lowering the flange (14) into the carrier (15). It would have been obvious to one having ordinary skill in the art to modify JONES with the flange/carrier movement of STROMBERG based on which parts are better suited for movement.

2.2. With respect to claim(s) 26, JONES additionally discloses a footprint of the flange overlapping a footprint of the carrier

3. Claim(s) 27-28 is/are rejected under 35 U.S.C. 103(a) as being unpatentable over JONES in view of PERLOV (US 6,283,692 B1).

3.1. With respect to claim(s) 27-28, JONES fails to teach the coupling member (6)/(9) used in conjunction with an overhead conveyor or storage shelf. It is well-known in the art complimentary flange and carrier coupling members may be used in conjunction with an overhead conveyor and storage rack. For example, PERLOV teaches a flange (116) engaged by a complimentary carrier (72) coupled to an overhead conveyor (56) which is coupled to a storage shelf (58). It would have been obvious to one having ordinary skill in the art to employ the coupling components of JONES on the conveyor and shelves of PERLOV in order to compensate for misalignments during engagement of the flange and carrier.

IV. Response to Applicant's Arguments

Applicant's arguments entered 9/4/07 have been fully considered.

1. Applicant argues that claims 1, 9, 14 and 24 are not anticipated by WANG or JONES because "neither reference discloses any feature that couples to an apparatus with which one or more substrates may be held while the substrates are transported." This argument is not persuasive. Applicant is arguing limitations that are not claimed. Actual coupling is not required to meet the claim limitation in question, namely, that the flange is adapted to couple to a substrate carrier body and a moving overhead carrier support. The substrate carrier body, along with the moving overhead carrier support, are features not required by the recited limitations. A recitation of the function or intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. Since both WANG and JONES have features enabling coupling to both a substrate carrier body and an overhead carrier support, as noted above, they are "adapted to couple to" those features within the broadest reasonable interpretation of the term, and therefore meet the limitation.
2. Applicant argues that claims 1, 9 and 24 are not anticipated by JONES or WANG because the JONES and WANG devices are adapted to couple in a vertical orientation and thus not adapted to couple to a horizontally moving object. This argument is not persuasive. This limitation is not claimed, merely, as discussed above, that the flange is adapted to couple to a substrate carrier body and a moving overhead carrier support. While the coupling of JONES

and WANG are shown in the vertical orientation the apparatus are capable of coupling in any orientation and are therefore "adapted to" couple as claimed.

3. Applicant argues that new claim 29 defines over the prior art because the prior art fails to teach the overhead transfer flange prevented from moving relative to the overhead support in a direction that is non-vertical. This argument is not persuasive. This statement is in error as WANG (Fig.6A) clearly shows preventing movement in a non-vertical (normal to the page which is horizontal) direction.

V. **Conclusion**

1. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

2. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles N. Greenhut whose telephone number is (571) 272-1517. The examiner can normally be reached on 7:30am - 4:00pm EST.

4. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Saul Rodriguez can be reached at (571) 272-7097. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

5. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CG

SAUL RODRIGUEZ
SUPERVISORY PATENT EXAMINER